Washington State Department of Health Office of Emergency Medical Services & Trauma System

Trauma Clinical Guideline

Initial Management of Traumatic Brain Injury

The Trauma Medical Directors' Technical Advisory Committee is an open forum for the directors of designated trauma services in Washington State to share ideas and concerns regarding the provision of trauma care. The workgroup meets regularly to encourage communication between services so that they may share information and improve the quality of care that they provide to patients. On occasion, at the request of the Governor's Steering Committee on EMS and Trauma Care, the group discusses the value of specific guidelines for trauma care procedures.

The Guideline for Initial Management of Traumatic Brain Injury Trauma Care is distributed by the Washington State Department of Health on behalf of the Governor-Appointed Steering Committee on Emergency Medical Services and Trauma Care to assist trauma care services with the development of their trauma patient care guidelines. Toward this goal the Trauma Medical Directors have categorized the type of guideline, the sponsoring organization, how it was developed, and whether it has been tested or validated. It is hoped that this information will assist the physician in evaluating the content of this guideline and its potential benefits for their practice or any particular patient.

The Department of Health does not mandate the use of this guideline. The Department recognizes the varying resources of different services and that approaches that work for one trauma service may not be suitable for others. The decision to use this guideline depends on the independent medical judgment of the physician. It is recommended that trauma services and physicians who choose to use this guideline consult with the Department on a regular basis for any updates to its content. The Department appreciates receiving any information regarding practitioners' experiences with this guideline. Please direct comments to Mary Rotert RN, 360 236-2874 or mary.rotert@doh.wa.gov

This is a trauma assessment and management guideline. It was adapted from the professional literature. The trauma medical directors group reviewed the guideline, sought input from trauma care physicians throughout Washington State, and used that input to make changes. The guideline was then endorsed by the Steering Committee and by the DOH Office of EMS/TS. This guideline has not been tested or validated.

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Assess A B C's

Initial Management of Traumatic Brain Injury

AIRWAY

Provide 100% oxygen. Consider intubation* for: hypoxia, hypercapnea, respiratory distress, facial/neck injuries, GCS \leq 8.

BREATHING

Assess & treat chest injuries. Avoid hyperventilation unless signs of active herniation.

CIRCULATION

Evaluate and treat for hypovolemia. Identify & control hemorrhage. Use isotonic fluids.

When ABC's stable, then:

Examine for signs of impending herniation: Unilateral or bilateral dilated pupils, lateralizing motor signs, or posturing.

YES

Place in reverse Trendelenberg.

Hyperventilate (target arterial pCO₂ 30-35mmHg).

Administer Mannitol** (if not hypovolemic).

** 20% solution, bolus IV 1g/kg over 5 min.

Arrange rapid transfer/consultation w/neurosurgeon.

Head CT only if it does not delay transfer.

Document GCS score & neuro exam:

GCS ≤ 8 Severe TBI

GCS 9 -13 Moderate TBI

GCS 14 -15 Mild TBI

Avoid hyperventilation (target arterial pCO₂ 35-38mmHg).

NO

Use short-acting sedatives.

Obtain Head CT scan.

Consult neurosurgeon as appropriate.

* <u>Recommendations for Rapid Sequence Intubation</u>

Sedation: etomidate, thiopental, or propofol Paralytics: succinylcholine or rocuronium) Premedication with lidocaine (Img/kg) is optional

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